76 is put underneath. However, it is possible that insufficient contact is made between the touchpad sensing electrodes on the second plastic sheet **76** and the solder bumps **72**. To ensure a good electrical contact, the holes in the first plastic sheet **74** are not made over the solder bumps **72**, but instead in front of them. In this way, the first plastic sheet **74** is still over the solder bumps **72**, thus forcing the second plastic sheet **76** against the solder bumps **72**.

Another aspect of the invention is the ability to use relatively inexpensive PC board material in these applications when the touchpad sensing electrodes are not being disposed thereon. The quality of the PC board can significantly affect the cost of the finished product. In this case, the material used for the PC board does not have to be high because the touchpad sensing electrodes no longer require such high precision when using CIRQUE CORPORATION (TM) touchpad control circuitry, thereby enabling the touchpad sensing electrodes to be silk screened onto the plastic sheets.

Another aspect of the invention is the ability to bend the plastic so that the touch-sensitive surface and the PC board having the control circuitry are both able to fit in a relatively small space. For example, consider a touchpad as shown in FIG. **10**A.

FIG. **10**A is a perspective illustration of plastic sheets **80** on which are disposed touchpad sensing electrodes. The touchpad sensing electrode are disposed on bent or curved plastic sheets **84** to the PC board **82** which is aligned so as to be disposed underneath the plastic sheets **80** of the touch-sensitive surface. The plastic sheets **80** can be attached to the underside of a keyboard case or a standalone touchpad case, while the PC board is disposed directly underneath. One of the advantages of this arrangement is that the total area required to house the touchpad is reduced because instead of mounting the PC board to the side, it is disposed directly beneath the touchpad surface. It is only necessary to properly insulate the touch-sensitive surface from the touchpad circuitry so that they can be disposed relatively close. Accordingly, a standalone touchpad can be smaller when the PC board is disposed directly beneath the touch-sensitive surface.

FIG. **10**B is an elevational profile view of the FIG. **10**A which shows the plastic sheets **80** of the touch-sensitive surface, the PC board **82** beneath, and the bent plastic sheets **84** that carry the touchpad sensing electrodes to the PC board.

FIG. **10**C is a top view of the FIG. **10**A which shows the plastic sheets **80** of the touch-sensitive surface, the bent plastic sheets **84**, and the outline of the PC board **82** disposed beneath the plastic sheets.

It is to be understood that the above-described arrangements are only illustrative of the application of the principles of the present invention. Numerous modifications and alternative arrangements may be devised by those skilled in the art without departing from the spirit and scope of the present invention. The appended claims are intended to cover such modifications and arrangements.

What is claimed is:

1. A touchpad for providing data input to a computer system by tracking movement of an object in contact with the touchpad, and which includes a flexible touch-sensitive surface that conforms to arcuate surfaces such that the flexible touch-sensitive surface is non-planar, said touchpad comprising:

at least two flexible and non-conductive sheets having at least three touchpad sensing electrodes disposed thereon, wherein the at least two flexible and non-conductive sheets overlap such that the at least three touchpad sensing electrodes form a grid which defines a touch-sensitive area of the touchpad, and wherein the at least two flexible and non-conductive sheets can bend to thereby conform to an arcuate surface such that the flexible touch-sensitive surface is not in a single plane, wherein movement of an object is detected and followed across the arcuate surface;

a printed circuit board; and

touchpad control circuitry which is mounted on the printed circuit board, wherein the touchpad control circuitry is electrically coupled to the touchpad sensing electrodes so as to receive sensing information therefrom in order to detect contact of the object with the touchpad, track movement of the object across the touchpad, and removal of the object from the touchpad to thereby perform such a function as cursor control for the computer system, and wherein the touchpad control circuitry generates a plurality of signals that correspond to data input from the touchpad.

2. The touchpad as defined in claim **1** wherein the at least two flexible and non-conductive sheets are selected from the group of flexible and non-conductive sheets including plastic and mylar.

3. The touchpad as defined in claim **2** wherein the touchpad sensing electrodes are formed from conductive ink.

4. The touchpad as defined in claim **3** wherein the touchpad further comprises a connection system between the at least two flexible and non-conductive sheets and the touchpad circuitry on the printed circuit board, said connection system comprising:

a first non-conductive sheet secured to the printed circuit board;

a second non-conductive sheet partially secured to the printed circuit board, parallel to the first non-conductive sheet, and spaced apart therefrom to form a gap therebetween, wherein the second non-conductive sheet is not secured along the gap; and

a row of solder bumps disposed underneath the second non-conductive sheet where it is not secured to the printed circuit board, parallel to and near an edge of the gap, wherein the portion of the at least two flexible and non-conductive sheets is disposed between the second non-conductive sheet and the row of solder bumps, and wherein touchpad sensing electrodes are in contact with the row of solder bumps.

5. The touchpad as defined in claim **3** wherein the touchpad further comprises a connection system between the at least two flexible and non-conductive sheets and the touchpad circuitry on the printed circuit board, said connection system comprising:

at least two rows of solder bumps disposed on the printed circuit board, wherein the at least two rows of solder bumps are spaced apart to form a gap therebetween; and

a portion of the at least two flexible and non-conductive sheets disposed so as to cover the at least two rows of solder bumps, wherein the portion of the at least two flexible and non-conductive sheets that is disposed over the gap is secured to the printed circuit board so as to fill the gap, wherein the gap between the at least two solder bumps is sufficient to create tension on the portion of the at least two flexible and non-conductive sheets that is secured thereto.